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AUTHOR Moffitt, William A., III; Lichtenberg, James W.  
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## ABSTRACT

Grinder and Bandler (1978) assert that if counselors communicate with their clients using verbal predicates that match the modality of their clients' primary representational system (PRS), it will be easier for the clients to understand the counselor and to feel that they are understood by the counselor. This study investigated this claim of a relationship between predicate matching and understanding. Three scripts were developed and tape-recorded depicting a college-aged male reporting on an early childhood experience. The content of each script was identical except for the sensory predicates used to describe the experience. One script contained visual predicates, one contained kinesthetic predicates, and one contained auditory predicates. Male college students (N=99) served as subjects. Each subject's PRS was determined by two independent raters on the basis of the verbal predicates used by the subject in a structured interview. Subjects then listened to a tape-recorded script under either a matched or a mismatched experimental condition. Following the script, subjects completed three questionnaires which assessed their objective understanding (factual recall) and subjective understanding (feelings of having understood). No significant main effect was found for matching on any of the dependent measures. The results weakly supported a claim of enhanced accuracy of understanding on one measure of objective understanding. (NB)

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The Effect of Predicate Matching on  
Understanding and Recall

William A. Moffitt, III  
Osawatomie State Hospital

James W. Lichtenberg  
University of Kansas

CG 019427

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# The Effect of Predicate Matching on Understanding and Recall

## Abstract

Grinder and Bandler (1978) assert that if counselors communicate with their clients using verbal predicates that match the modality of their clients' primary representational system (PRS), it will be easier for the clients to understand the counselor and to feel that they are understood. This study investigated this claim of a relationship between predicate matching and understanding. Subjects (N=99) listened to a tape recorded narrative under either a "matched" or "mismatched" experimental condition. Subjects' objective understanding (factual recall) and subjective understanding (feelings of having understood) were assessed. The results weakly supported a claim of enhanced accuracy of understanding on one measure of objective understanding.

## The Effect of Predicate Matching on Understanding and Recall

Grinder and Bandler (1976) contend that people organize their experiences of the world in internal representational systems. Internal representational systems can be either visual, auditory or kinesthetic. These theorists further contend that people tend to have a most highly valued or used representational system (a primary representational system = PRS) in which they typically organize and represent the world and their experience of it to themselves and to others.

One major method used for determining individuals' PRSs has been to listen carefully to the predicates they use in their natural language--predicates in this sense being the verbs, adjectives and adverbs people use in describing their experiences. Grinder and Bandler contend that individuals are better able to understand communication in which the predicates that are used match their PRS. One implication of this assertion that has relevance for counseling is that "communication between individuals with differing PRSs can be difficult" (Falzett, 1981). This difficulty arises because the two individuals are communicating through different modes of experiencing, and they are internally representing the world in different ways. People may not understand one another because they use different sensory predicates to relate similar experiences.

Applied directly to the counseling experience, Grinder and Bandler (1976) assert that, "If you want your client to understand and trust you, you have the choice of matching predicates" (p. 16). Since clients organize their experience in terms of their own particular PRS, if counselors communicate with their clients using predicates that match the clients' PRS, it will be easier for the clients both to understand the counselors' communication and to know that they are understood.

Although claims have been made about the relationship between matched versus unmatched PRSs and understanding, there has been no direct empirical support offered for this contention. Falzett (1981) found that when interviewers matched predicates to subjects' PRS, levels of perceived trustworthiness were higher. Yapko (1981) found that matching PRS predicates increased the relaxation level of subjects and appeared to enhance rapport and influence. Dowd and Pety (1982) found that predicate matching had no effect on perceived social influence and client satisfaction, but did show an effect on a postinterview measure of the subjects' willingness to see the counselor. In none of these studies, however, was the assumption tested that if the counselor matches the PRS of the client by using similar predicates, the client will be more likely to understand the counselor and to feel understood. The purpose of this study, therefore, was to explicitly investigate the relationship between matched verses mismatched PRSs on understanding.

## METHOD

### Subjects

Subjects were 99 college males enrolled in an undergraduate psychology class.

### Stimulus materials

Three scripts were developed depicting a college-aged male reporting on an early childhood experience. The content of each script was identical except for the sensory predicates used to describe the experience. One script contained visual predicates, one script contained kinesthetic predicates, and one script contained auditory predicates. The total number of sensory predicates per script was equal across the three scripts. Each script was tape recorded for presentation to the subjects.

### Dependent measures

There were four dependent measures which were used to assess two levels of the subjects' understanding of the taped script: objective understanding and subjective understanding. In this study, objective understanding referred to the extent to which subjects accurately recalled the factual content of the tape to which they listened. Subjective understanding referred to the degree to which the subjects felt that they understood the information on the tape. The two measures of objective understanding were: (a) a free recall measure on which subjects were instructed to record as much of the factual information presented on the tape as they were able to remember, and (b) a stimulus recall questionnaire which prompted the subjects to give

certain specific answers to questions about the tape. The two measures of subjective understanding were: (a) a subjective opinion questionnaire designed to evaluate the subjects' perception of their understanding of the tape, and (b) a measure of the subjects' level of confidence regarding their answers to the stimulus recall measure.

With particular regard to the free recall measure of objective understanding, subjects' responses were scored as (a) exact recall responses (the words chosen by the subject corresponded exactly with the language used on the tape), (b) accurate transformations (the words chosen by the subject in recalling the content of the tape were not exactly the same as those used on the tape but were either accurate transformations or accurate through implication -- e.g., mom = mother), (c) new responses whose accuracy was formally undecidable (the words chosen by the subject did not correspond directly to the content on the tape but were not necessarily inaccurate -- e.g., Ford = station wagon), or (d) inaccurate transformations (the words used not only did not correspond directly with the content of the tape, but in fact were inaccurate -- blue  $\neq$  red). A subject's total recall accuracy score was the sum of his exact and accurate responses to the questionnaire.

The raw data were scored by the principle investigator. He was blind to the experimental conditions of the subjects but was aware of the stimulus tape to which each subject listened. The latter information was necessary in order to accurately score the free recall measure.

### Procedure

Each subject's PRS was determined by two independent raters ( $K = .86$ ) on the basis of the verbal predicates used by the subject in a structured 20-minute interview. The PRS was defined as the sensory modality (visual, auditory, kinesthetic) that was most frequently referenced by the subject during the interview and which differed from the second most frequently referenced modality (i.e., the subject's secondary representational system) by five or more predicate words.

Subjects were randomly assigned to either a matched or a mismatched condition. In the matched condition, the subjects listened to the stimulus tape which used sensory predicates that were similar to their PRS. In the mismatched condition, subjects listened to the tape that corresponded to their tertiary representational system.

Following the playing of the stimulus tape, the subjects were asked to complete the three questionnaires. Because exposure to the material presented on the stimulus recall questionnaire might inadvertently inflate the scores on the free recall questionnaire, the three questionnaires were always administered in the following order: the subjective opinion questionnaire, followed by the free recall questionnaire, followed by the stimulus recall/level of confidence questionnaire.

### Hypotheses

It was hypothesized that (a) subjects across all four dependent measures would score significantly higher in the

matched conditions than in the mismatched conditions, (b) subjects' scores for the three representational system groups would not differ significantly from one another across the four dependent measures, and (c) there would be no significant interaction between the three representational system groups and matching across the four dependent measures. Hypotheses were tested using MANOVA procedures, with the use of ANOVA and Tukey's HSD test to clarify the findings.

### RESULTS

Contrary to anticipated results, no significant main effect was found for matching on any of the four dependent measures,  $F(4,90) = .411$ , NS. Subsequent analyses of the data on the free recall measure, considering matching and mismatching conditions, however, did reveal a significant matching effect,  $F(4,90) = 5.62$ ,  $p < .001$ . This effect was particularly strong when subjects' free recall score was based only on the subjects' "exact" responses, rather than on the subjects' combined "exact" responses plus their "accurate transformations",  $F(1,93) = 4.65$ ,  $p < .05$ . The effect was also apparent when considering the frequency of "inaccurate" responses. Subjects in the mismatched condition produced a significantly larger number of "inaccurate" responses than those in the matched condition,  $F(1,93) = 8.85$ ,  $p < .01$ . Despite the initial non-significant MANOVA, there does appear to be some evidence to suggest that subjects' showed an increased factual/objective understanding of material when that material was presented using sensory predicates that matched the subject's PRS.

Also contrary to anticipated results, the MANOVA revealed a significant main effect for the subjects' PRS,  $F(8,182) = 3.17$ ,  $p < .01$ . Post hoc analyses identified the visual PRS group as having scores higher than both the auditory and kinesthetic PRS groups across all four dependent measures. Further analysis suggested that the visual group appeared to have the most highly developed and most clearly identified PRS of the three sensory modality groups. Specifically, the visual group both used the largest number of primary sensory predicates during the PRS identification interview as well as had the largest difference scores between its primary and secondary/tertiary representational systems during the interview. This "level and clarity of PRS development" aspect may account for the significant main effect found in this study.

Finally, no interaction effect was found between the three representational system groups and the matching conditions,  $F(8,182) = .712$ , NS. The absence of the interaction effect was a prediction of this study.

#### DISCUSSION

On the whole, the results, at best, only weakly support Bandler and Grinder's (1978) contention of enhanced accuracy of understanding when speaker and listener PRSs are matched. Only upon reanalyzing the subjects' responses to the free recall questionnaire, with a focus exclusively on exact (rather than simply "accurate") responses was a matching effect found. This finding may highlight a distinction between "understanding" and

simply "remembering" -- the latter being, for purposes of this study, the operationalization of the former. This in turn may suggest a needed revision in Grinder and Bandler's theory, namely that matching of PRSs enhances the "remembering" (of words in a communication), but not necessarily the more general "understanding" of the meaning or sense of the communication.

In considering the results of this study, however, consideration should be given to the character of the subject population used in the study. In formulating their theory, Bandler and Grinder worked with persons who were, by their report, experiencing some level of psychological distress. Within neuro-linguistic programming theory, Bandler and Grinder suggest that a person's psychological difficulties may be related to a rigid reliance upon a single representational system for storing and understanding experience. Whether this might be the cause or effect of the difficulties is not wholly clear (although the former seems more strongly suggested), but it does suggest a difference between a clinical versus a non-clinical population with respect to their use of different representational systems. That is to say, persons in a non-clinical population, although favoring a particular representational system, may be more "flexible" (or "multimodal" -- see Elich, Thompson & Miller, 1985) in both the storage and retrieval of information involving other sensory representations. To the extent that the participants in the present study were not drawn from a clinical population, it is possible that the presumed effect of (need for) matching PRSs may have been mitigated, thereby resulting in the non-significant matching effect.

The unexpected finding of a significant main effect for PRS on understanding/recall is more difficult to explain. As already noted, the visual PRS participants appeared to have (as a group) a more highly developed PRS, as evidenced by the number of primary sensory predicates used in their screening interview and by the difference between the number of primary and secondary/tertiary sensory predicates used in that interview. This may account for the superiority of the visual group on the various dependent measures.

The main effect for PRS may also reflect differences in the information processing styles of persons with different PRSs. Specifically, it may be hypothesized that person with different PRSs may process information differently than others, and that for some (e.g., the visual PRS subjects) it is easier to bridge PRS-language(predicate) differences than for others (e.g., the auditory and kinesthetic PRS subjects). If such were the case, it could lead to a consistently superior understanding/recall across the three PRS modalities, and not just for the matched condition. Indirect support for this hypothesis is provided by Graunke and Roberts (1985) who, in the discussion of their study and based on their findings, suggest that "it may be easier for people to incorporate additional sensory modalities into visual images than kinesthetic or auditory images" (p. 529).

The evidence of a main effect for PRS may also be reflective of differences between a clinical population and the non-clinical population from which the study's sample was drawn.

Finally, it is possible that the stimulus tapes, although

structured identically (varying only in the sensory predicates used), nevertheless differed in their sense and clarity, such that the visual account reported on the tape was more "natural" and more "naturally understandable" than the same report as presented on either the auditory or kinesthetic tapes.

In conclusion, when considering the results, the laboratory nature of the study must be kept in mind. This was not a test of the effects of predicate matching/mismatching on client or counselor understanding in counseling, per se, but rather an experimental test of one aspect of Grinder and Bandler's theoretical position which may have some relevance for counseling. The experience of understanding, of feeling understood, and of feeling one understands in an actual counseling situation, although possibly a function of predicate matching/mismatching, is also likely to be a function of numerous other cognitive, affective and other person variables.

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